

Tahoe Sierra IRWMP

Attachment #9

Economic Analysis – Flood Damage Reduction
Costs and Benefits

Table 18 - Event Damage
Project: Project 3 - Little Truckee River Restoration Project - Sierra County

Hydrologic Event	Event Probability	Damage if Flood Structures Fail	Probability Structural Failure		Event Damage		Event Benefit
			Without Project	With Project	Without Project	With Project	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
10-Year	0.1	\$5,000	0.5	0	(c) x (d) \$2,500	(c) x (e) \$0.00	(f) - (g) \$2,500
15-Year	0.067	\$5,000	0.75	0.5	\$3,750	\$2,500.00	\$1,250
20-Year	0.05	\$5,000	1	0.75	\$5,000	\$3,750.00	\$1,250
25-Year	0.04	\$74,000	1	0.18	\$74,000	\$13,320.00	\$60,680
50-Year	0.02	\$264,000	1	0.05	\$264,000	\$13,200.00	\$250,800

The flood damage amounts are identified as follows:
 \$5000: grazing
 \$59000: Independence lake
 bridge repair
 \$100,000 for damage to USFS campgrounds
 An additional \$90,000 for repair of Highway 89 bridge

Figure 1 - Loss-Probability Curves (Example)

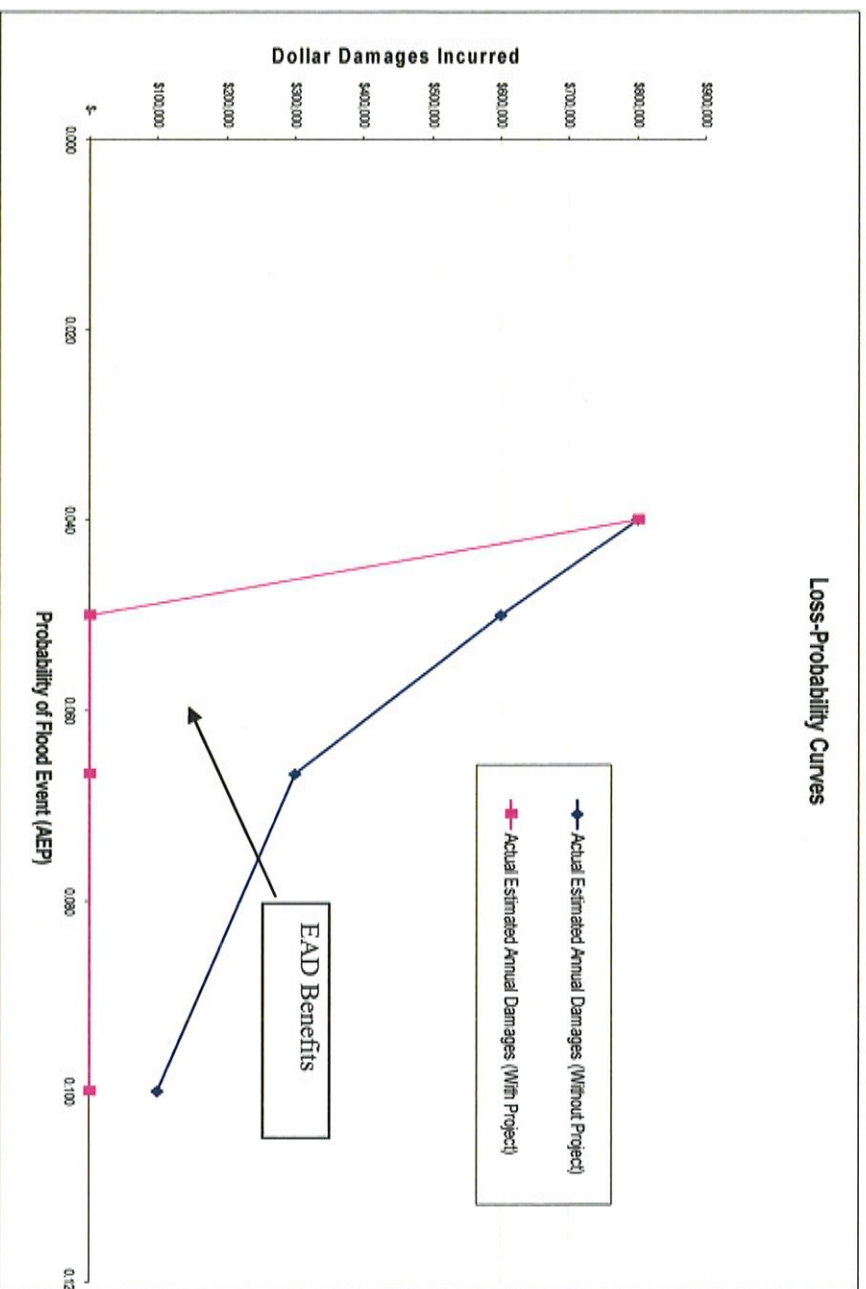


Table 19 - Present Value of Expected Annual Damage Benefits

Project: Project 3 - Little Truckee River Restoration Project - Sierra County

(a)	Expected Annual Damage Without Project (1)		\$6,985
(b)	Expected Annual Damage With Project (1)		\$635
(c)	Expected Annual Damage Benefit	(a) – (b)	\$6,350
(d)	Present Value Coefficient (2)		15.76
	Present Value of Future Benefits	(c) x (d)	\$100,076
(e)	Transfer to Table 20, column (e), Exhibit F: Proposal Costs and Benefits Summaries.		

(1) This program assumes no population growth thus EAD will be constant over analysis period.

(2) 6% discount rate; 50-year analysis period (could vary depending upon life cycle of project).